

What is claimed is:

1. A method for treating electroluminescent phosphor having a coating of metal oxide, said method comprising the steps of:

- 5 a) providing a fluidized bed of coated electroluminescent phosphor;
 b) vaporizing water in a carrier gas to form a first gas;
 c) vaporizing an organotrichlorosilane compound in a carrier gas to form a second gas;
 d) passing the first gas and the second gas through the fluidized bed to form a
10 siloxane coating on the electroluminescent phosphor.

2. The method as set forth in claim 1 wherein step d) is continued for approximately thirty minutes.

- 15 3. The method as set forth in claim 1 wherein said organotrichlorosilane compound consists essentially of an alkyl trichlorosilane.

4. The method as set forth in claim 1 wherein said organotrichlorosilane compound consists essentially of an aryl trichlorosilane.

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5. The method as set forth in claim 1 wherein said organotrichlorosilane compound is selected from the group consisting of phenyltrichlorosilane, n-propyltrichlorosilane, and tert-butyltrichlorosilane.

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6. An electroluminescent lamp comprising:
a transparent electrode;
a phosphor layer overlying said transparent electrode;
a dielectric layer overlying said phosphor layer; and
a rear electrode overlying said dielectric layer;

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wherein said phosphor layer includes phosphor particles having a moisture resistant coating and a metal oxide coating overlying each phosphor particle.

7. The lamp as set forth in claim 6 wherein said moisture resistant coating is formed by treating the phosphor particles in a fluidized bed with a mixture of water vapor and organotrichlorosilane.

- 5 8. A method for treating particles, said method comprising the steps of:
- a) providing a fluidized bed of the particles;
 - b) vaporizing water in a first carrier gas to form a first gas mixture;
 - c) vaporizing an organotrichlorosilane compound in a second carrier gas to form a second gas mixture;
- 10 d) passing the first gas mixture and the second gas mixture through the fluidized bed to form a siloxane coating on the particles without applying heat to the fluidized bed or to the carrier gases.

9. The method as set forth in claim 8 wherein said passing step is carried out at
15 ambient temperature.

10. The method as set forth in claim 8 wherein the first carrier gas is the same as the second carrier gas.